



EOG Resources - Midland

Lea County, NM (NAD 27 NME)

Orrtanna 20 Fed

#703H

OH

Design: OH

PVA

30 May, 2017



EOG Resources, Inc.
PVA

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 27 NME)
Site: Orrtanna 20 Fed
Well: #703H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #703H
TVD Reference: KB = 25' @ 3257.0usft (H&P 473)
MD Reference: KB = 25' @ 3257.0usft (H&P 473)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.14 Single User Db

Project Lea County, NM (NAD 27 NME)

Map System: US State Plane 1927 (Exact solution)
Geo Datum: NAD 1927 (NADCON CONUS)
Map Zone: New Mexico East 3001

System Datum: Mean Sea Level

Site Orrtanna 20 Fed

Site Position:		Northing:	372,591.00 usft	Latitude:	32° 1' 20.073 N
From:	Map	Easting:	727,501.00 usft	Longitude:	103° 35' 57.401 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.39 °

Well #703H

Well Position	+N/-S	0.0 usft	Northing:	372,600.00 usft	Latitude:	32° 1' 20.093 N
	+E/-W	0.0 usft	Easting:	728,520.00 usft	Longitude:	103° 35' 45.565 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	3,232.0 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	8/25/2016	7.04	59.88	47,899.97559561

Design OH

Audit Notes:

Version: 1.0 **Phase:** ACTUAL **Tie On Depth:** 0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	355.81

Survey Program Date 5/30/2017

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
155.0	17,138.0	Intrepid MWD (OH)	MWD	MWD - Standard



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0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.0	0.0
155.0	0.90	208.60	155.0	-1.1	-0.6	0.58	0.58	0.00	-1.2	0.0
339.0	0.90	203.50	339.0	-3.7	-1.9	0.04	0.00	-2.77	-4.1	-0.2
528.0	0.70	206.30	528.0	-6.1	-3.0	0.11	-0.11	1.48	-6.7	0.0
714.0	0.80	228.40	713.9	-7.9	-4.4	0.16	0.05	11.88	-8.6	3.0
900.0	1.20	202.50	899.9	-10.6	-6.1	0.32	0.22	-13.92	-12.1	-1.6
1,047.0	1.10	193.00	1,046.9	-13.4	-7.1	0.15	-0.07	-6.46	-14.6	-3.9
1,158.0	0.70	193.70	1,157.9	-15.1	-7.5	0.36	-0.36	0.63	-16.4	-3.7
1,344.0	0.70	164.90	1,343.9	-17.3	-7.4	0.19	0.00	-15.48	-14.8	-11.7
1,531.0	0.70	191.40	1,530.8	-19.5	-7.4	0.17	0.00	14.17	-20.6	-3.4
1,718.0	0.80	215.30	1,717.8	-21.7	-8.3	0.17	0.05	12.78	-22.5	5.7
1,906.0	0.90	241.80	1,905.8	-23.5	-10.4	0.21	0.05	14.10	-20.3	15.8
2,093.0	0.90	232.60	2,092.8	-25.1	-12.9	0.08	0.00	-4.92	-25.4	12.1
2,280.0	1.80	239.80	2,279.7	-27.4	-16.6	0.49	0.48	3.85	-28.1	15.4
2,467.0	2.00	234.70	2,466.6	-30.8	-21.8	0.14	0.11	-2.73	-35.5	12.6
2,656.0	1.80	234.80	2,655.5	-34.4	-26.9	0.11	-0.11	0.05	-41.8	12.6
2,844.0	1.90	224.70	2,843.4	-38.3	-31.5	0.18	0.05	-5.37	-47.7	5.1
3,030.0	2.20	253.80	3,029.3	-41.5	-37.1	0.58	0.16	15.65	-40.2	28.0
3,217.0	2.80	248.30	3,216.1	-44.2	-44.8	0.35	0.32	-2.94	-41.8	22.6
3,404.0	4.10	257.00	3,402.8	-47.4	-55.5	0.75	0.70	4.65	-36.8	25.9
3,591.0	1.60	225.50	3,589.6	-50.7	-63.9	1.53	-1.34	-16.84	-37.9	3.8
3,780.0	2.50	231.60	3,778.4	-55.1	-69.0	0.49	0.48	3.23	-27.7	10.9
3,967.0	6.00	258.70	3,964.9	-59.6	-81.8	2.11	1.87	14.49	-17.6	19.3
4,155.0	5.30	260.90	4,152.0	-62.9	-100.0	0.39	-0.37	1.17	-19.9	14.9
4,341.0	4.70	254.50	4,337.3	-66.3	-115.8	0.44	-0.32	-3.44	-21.8	7.9
4,527.0	5.10	235.10	4,522.6	-73.1	-130.0	0.91	0.22	-10.43	-22.5	-0.4
4,714.0	5.00	234.50	4,708.9	-82.5	-143.4	0.06	-0.05	-0.32	-22.8	1.2



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4,901.0	5.80	243.60	4,895.1	-91.5	-158.5	0.63	0.43	4.87	-23.5	5.5
5,086.0	5.00	242.50	5,079.2	-99.4	-174.0	0.44	-0.43	-0.59	-24.9	4.5
5,273.0	4.40	245.40	5,265.6	-106.1	-187.8	0.35	-0.32	1.55	-23.6	5.1
5,460.0	4.40	244.40	5,452.1	-112.2	-200.8	0.04	0.00	-0.53	-21.8	3.7
5,648.0	4.10	243.00	5,639.5	-118.4	-213.3	0.17	-0.16	-0.74	-19.4	2.5
5,836.0	4.20	241.70	5,827.0	-124.7	-225.3	0.07	0.05	-0.69	-16.6	1.9
6,023.0	6.90	246.60	6,013.2	-132.4	-241.7	1.46	1.44	2.62	-18.2	2.4
6,209.0	6.40	246.20	6,197.9	-141.0	-261.4	0.27	-0.27	-0.22	-23.7	0.8
6,397.0	5.90	246.70	6,384.8	-149.0	-279.9	0.27	-0.27	0.27	-27.5	-0.4
6,585.0	5.50	247.20	6,571.9	-156.4	-297.0	0.21	-0.21	0.27	-29.8	-1.7
6,771.0	4.30	251.20	6,757.2	-162.1	-311.9	0.67	-0.65	2.15	-29.8	-1.7
6,958.0	4.70	246.00	6,943.6	-167.4	-325.5	0.31	0.21	-2.78	-27.9	-6.4
7,146.0	1.70	236.60	7,131.3	-172.1	-334.9	1.61	-1.60	-5.00	-23.3	-10.9
7,333.0	1.50	241.10	7,318.2	-174.8	-339.3	0.13	-0.11	2.41	-21.9	-8.8
7,520.0	1.80	228.30	7,505.2	-178.0	-343.7	0.25	0.16	-6.84	-23.2	-13.6
7,706.0	1.50	235.60	7,691.1	-181.3	-347.8	0.20	-0.16	3.92	-30.0	-10.2
7,894.0	0.90	258.00	7,879.0	-183.0	-351.3	0.40	-0.32	11.91	-35.4	3.0
8,081.0	0.70	32.60	8,066.0	-182.3	-352.1	0.79	-0.11	71.98	26.9	24.2
8,267.0	0.70	49.40	8,252.0	-180.6	-350.7	0.11	0.00	9.03	30.5	15.7
8,453.0	0.30	63.60	8,438.0	-179.7	-349.4	0.22	-0.22	7.63	31.8	8.0
8,640.0	0.40	176.40	8,625.0	-180.1	-348.9	0.31	0.05	60.32	-5.4	-32.0
8,827.0	0.60	174.30	8,812.0	-181.7	-348.8	0.11	0.11	-1.12	-5.9	-32.2
9,014.0	0.80	198.80	8,999.0	-183.9	-349.1	0.19	0.11	13.10	-20.9	-26.5
9,202.0	0.50	223.50	9,187.0	-185.8	-350.1	0.21	-0.16	13.14	-32.0	-14.8
9,390.0	1.00	267.90	9,375.0	-186.4	-352.3	0.39	0.27	23.62	-35.4	12.4
9,576.0	1.70	24.10	9,560.9	-184.0	-352.8	1.25	0.38	62.47	24.8	27.8
9,762.0	1.60	40.10	9,746.9	-179.5	-350.0	0.25	-0.05	8.60	26.2	20.6



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9,949.0	2.30	86.90	9,933.8	-177.3	-344.5	0.90	0.37	25.03	27.4	-3.1	
10,137.0	1.30	71.10	10,121.7	-176.4	-338.7	0.59	-0.53	-8.40	21.5	3.5	
10,323.0	0.90	73.30	10,307.6	-175.3	-335.4	0.22	-0.22	1.18	18.0	2.7	
10,510.0	2.50	288.50	10,494.6	-173.5	-337.8	1.75	0.86	-77.43	-19.2	7.3	
10,697.0	0.90	349.10	10,681.5	-170.8	-342.0	1.18	-0.86	32.41	-6.5	23.9	
10,883.0	1.40	272.80	10,867.5	-169.3	-344.5	0.79	0.27	-41.13	-27.3	-2.2	
11,070.0	1.20	206.70	11,054.4	-170.9	-347.7	0.76	-0.11	-35.24	-12.1	-27.9	
11,258.0	2.00	235.00	11,242.4	-174.6	-351.2	0.59	0.43	15.05	-28.9	-18.0	
11,444.0	1.10	274.40	11,428.3	-176.3	-355.7	0.72	-0.48	21.18	-38.0	6.5	
11,555.0	0.70	321.20	11,539.3	-175.7	-357.2	0.72	-0.36	42.16	-22.7	32.9	
11,734.0	0.80	301.90	11,718.3	-174.2	-358.9	0.15	0.06	-10.78	-34.6	23.2	
11,827.0	2.50	342.00	11,811.2	-171.9	-360.1	2.10	1.83	43.12	-13.6	40.6	
11,874.0	7.20	349.70	11,858.1	-168.0	-360.9	10.07	10.00	16.38	-8.2	42.8	
11,921.0	12.20	351.20	11,904.4	-160.2	-362.2	10.65	10.64	3.19	-7.0	44.3	
11,968.0	16.40	354.90	11,949.9	-148.7	-363.6	9.14	8.94	7.87	-3.5	46.0	
12,014.0	18.30	355.40	11,993.8	-135.0	-364.7	4.14	4.13	1.09	-0.9	47.2	
12,108.0	26.30	355.80	12,080.7	-99.5	-367.5	8.51	8.51	0.21	8.3	50.3	
12,155.0	34.20	354.30	12,121.3	-75.9	-369.6	16.87	16.81	-2.77	11.7	52.7	
12,202.0	40.00	356.80	12,158.7	-47.7	-371.8	12.69	12.34	4.89	16.2	54.3	
12,249.0	46.80	4.00	12,192.9	-15.4	-371.5	18.05	14.47	15.74	22.8	52.0	
12,295.0	54.90	10.20	12,221.9	19.9	-367.0	20.46	17.61	13.48	25.1	45.8	
12,342.0	56.00	11.70	12,248.6	57.9	-359.7	3.52	2.34	3.19	24.8	37.9	
12,390.0	60.70	10.50	12,273.8	98.0	-351.8	10.02	9.79	-2.50	24.9	30.3	
12,437.0	67.70	8.10	12,294.2	139.7	-345.0	15.59	14.89	-5.11	24.2	24.0	
12,483.0	76.10	4.50	12,308.5	183.1	-340.2	19.71	18.26	-7.83	21.7	19.9	
12,530.0	83.70	2.30	12,316.7	229.3	-337.5	16.81	16.17	-4.68	17.1	17.3	
12,577.0	88.10	1.00	12,320.1	276.1	-336.2	9.76	9.36	-2.77	12.0	15.7	



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12,624.0	90.90	0.60	12,320.5	323.1	-335.5	6.02	5.96	-0.85	8.1	14.7	
12,670.0	91.00	0.10	12,319.7	369.1	-335.2	1.11	0.22	-1.09	6.8	14.1	
12,769.0	92.00	358.80	12,317.2	468.1	-336.2	1.66	1.01	-1.31	4.5	14.3	
12,862.0	90.90	358.90	12,314.8	561.0	-338.0	1.19	-1.18	0.11	2.4	15.5	
12,955.0	88.50	358.90	12,315.3	654.0	-339.8	2.58	-2.58	0.00	3.1	16.6	
13,049.0	89.70	359.90	12,316.8	748.0	-340.8	1.66	1.28	1.06	4.8	16.9	
13,142.0	92.00	1.10	12,315.4	840.9	-340.0	2.79	2.47	1.29	3.7	15.5	
13,236.0	91.60	2.70	12,312.4	934.8	-336.9	1.75	-0.43	1.70	1.0	11.7	
13,330.0	90.90	3.90	12,310.4	1,028.7	-331.5	1.48	-0.74	1.28	-0.8	5.6	
13,423.0	91.10	4.80	12,308.8	1,121.4	-324.4	0.99	0.22	0.97	-2.2	-2.1	
13,517.0	90.70	4.30	12,307.3	1,215.1	-317.0	0.68	-0.43	-0.53	-3.4	-10.2	
13,610.0	88.50	3.60	12,307.9	1,307.8	-310.6	2.48	-2.37	-0.75	-2.6	-17.3	
13,703.0	89.50	2.40	12,309.6	1,400.7	-305.7	1.68	1.08	-1.29	-0.7	-22.8	
13,797.0	90.20	2.00	12,309.8	1,494.6	-302.1	0.86	0.74	-0.43	-0.2	-27.1	
13,890.0	90.10	0.30	12,309.6	1,587.6	-300.2	1.83	-0.11	-1.83	-0.3	-29.6	
13,983.0	90.60	0.80	12,309.0	1,680.6	-299.3	0.76	0.54	0.54	-0.7	-31.2	
14,077.0	89.10	359.40	12,309.2	1,774.6	-299.2	2.18	-1.60	-1.49	-0.4	-32.0	
14,170.0	88.30	358.60	12,311.3	1,867.6	-300.8	1.22	-0.86	-0.86	1.9	-31.1	
14,263.0	88.60	359.10	12,313.9	1,960.5	-302.7	0.63	0.32	0.54	4.5	-29.9	
14,356.0	89.10	359.00	12,315.7	2,053.5	-304.2	0.55	0.54	-0.11	6.5	-29.0	
14,450.0	89.30	359.20	12,317.0	2,147.4	-305.7	0.30	0.21	0.21	7.9	-28.2	
14,542.0	89.30	359.10	12,318.2	2,239.4	-307.0	0.11	0.00	-0.11	9.2	-27.5	
14,635.0	89.70	359.40	12,319.0	2,332.4	-308.3	0.54	0.43	0.32	10.1	-26.9	
14,728.0	90.90	0.50	12,318.5	2,425.4	-308.3	1.75	1.29	1.18	9.7	-27.5	
14,821.0	91.80	2.30	12,316.3	2,518.4	-306.1	2.16	0.97	1.94	7.7	-30.4	
14,915.0	91.90	1.50	12,313.3	2,612.3	-303.0	0.86	0.11	-0.85	4.8	-34.2	
15,024.0	91.40	1.20	12,310.1	2,721.2	-300.4	0.53	-0.46	-0.28	1.8	-37.6	



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15,117.0	91.20	0.50	12,308.0	2,814.1	-299.0	0.78	-0.22	-0.75	-0.2	-39.6
15,210.0	89.10	358.30	12,307.8	2,907.1	-300.0	3.27	-2.26	-2.37	-0.3	-39.3
15,304.0	89.10	358.00	12,309.2	3,001.1	-303.0	0.32	0.00	-0.32	1.3	-37.0
15,398.0	90.20	359.40	12,309.8	3,095.0	-305.1	1.89	1.17	1.49	2.3	-35.5
15,491.0	92.40	359.70	12,307.7	3,188.0	-305.9	2.39	2.37	0.32	0.6	-35.4
15,582.0	91.10	359.40	12,304.9	3,279.0	-306.6	1.47	-1.43	-0.33	-1.8	-35.4
15,676.0	91.60	358.70	12,302.7	3,372.9	-308.2	0.91	0.53	-0.74	-3.6	-34.5
15,770.0	90.30	358.70	12,301.2	3,466.9	-310.3	1.38	-1.38	0.00	-4.8	-33.0
15,864.0	90.60	359.30	12,300.4	3,560.9	-311.9	0.71	0.32	0.64	-5.1	-32.1
15,956.0	89.50	0.70	12,300.3	3,652.9	-311.9	1.94	-1.20	1.52	-4.8	-32.7
16,049.0	89.30	0.70	12,301.3	3,745.8	-310.8	0.22	-0.22	0.00	-3.4	-34.5
16,148.0	88.70	359.10	12,303.0	3,844.8	-311.0	1.73	-0.61	-1.62	-1.2	-35.1
16,236.0	89.10	358.90	12,304.7	3,932.8	-312.5	0.51	0.45	-0.23	0.9	-34.1
16,330.0	90.90	359.40	12,304.7	4,026.8	-313.9	1.99	1.91	0.53	1.3	-33.4
16,423.0	91.60	359.50	12,302.7	4,119.8	-314.8	0.76	0.75	0.11	-0.4	-33.2
16,517.0	92.00	359.30	12,299.7	4,213.7	-315.8	0.48	0.43	-0.21	-2.9	-32.9
16,611.0	87.80	359.20	12,299.9	4,307.7	-317.0	4.47	-4.47	-0.11	-2.3	-32.3
16,704.0	88.60	359.00	12,302.8	4,400.6	-318.5	0.89	0.86	-0.22	1.0	-31.5
16,798.0	89.00	358.80	12,304.8	4,494.6	-320.3	0.48	0.43	-0.21	3.4	-30.4
16,891.0	89.40	358.70	12,306.1	4,587.5	-322.3	0.44	0.43	-0.11	5.1	-29.0
16,985.0	90.50	359.10	12,306.2	4,681.5	-324.1	1.25	1.17	0.43	5.6	-27.9
17,078.0	91.40	359.40	12,304.6	4,774.5	-325.3	1.02	0.97	0.32	4.4	-27.4
Last MWD Survey										
17,138.0	91.40	359.40	12,303.2	4,834.5	-325.9	0.00	0.00	0.00	3.9	-30.2
Projection To Bit										



EOG Resources, Inc.

PVA

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 27 NME)
Site: Orrtanna 20 Fed
Well: #703H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #703H
TVD Reference: KB = 25' @ 3257.0usft (H&P 473)
MD Reference: KB = 25' @ 3257.0usft (H&P 473)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.14 Single User Db

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
17,078.0	12,304.6	4,774.5	-325.3	Last MWD Survey
17,138.0	12,303.2	4,834.5	-325.9	Projection To Bit

Checked By: _____ Approved By: _____ Date: _____